

## ACHIEVEMENT CHART – SCIENCE AND TECHNOLOGY, GRADES 1–8

Categories	Level 1	Level 2	Level 3	Level 4
<b>Knowledge and Understanding</b> – Subject-specific content acquired in each grade (knowledge), and the comprehension of its meaning and significance (understanding)				
	The student:			
<b>Knowledge of content</b> (e.g., facts; terminology; definitions; safe use of tools, equipment, and materials)	demonstrates limited knowledge of content	demonstrates some knowledge of content	demonstrates considerable knowledge of content	demonstrates thorough knowledge of content
<b>Understanding of content</b> (e.g., concepts, ideas, theories, principles, procedures, processes)	demonstrates limited understanding of content	demonstrates some understanding of content	demonstrates considerable understanding of content	demonstrates thorough understanding of content
<b>Thinking and Investigation</b> – The use of critical and creative thinking skills and inquiry and problem-solving skills and/or processes				
	The student:			
<b>Use of initiating and planning skills and strategies</b> (e.g., formulating questions, identifying the problem, developing hypotheses, scheduling, selecting strategies and resources, developing plans)	uses initiating and planning skills and strategies with limited effectiveness	uses initiating and planning skills and strategies with some effectiveness	uses initiating and planning skills and strategies with considerable effectiveness	uses initiating and planning skills and strategies with a high degree of effectiveness
<b>Use of processing skills and strategies</b> (e.g., performing and recording, gathering evidence and data, observing, manipulating materials and using equipment safely, solving equations, proving)	uses processing skills and strategies with limited effectiveness	uses processing skills and strategies with some effectiveness	uses processing skills and strategies with considerable effectiveness	uses processing skills and strategies with a high degree of effectiveness
<b>Use of critical/creative thinking processes, skills, and strategies</b> (e.g., analysing, interpreting, problem solving, evaluating, forming and justifying conclusions on the basis of evidence)	uses critical/creative thinking processes, skills, and strategies with limited effectiveness	uses critical/creative thinking processes, skills, and strategies with some effectiveness	uses critical/creative thinking processes, skills, and strategies with considerable effectiveness	uses critical/creative thinking processes, skills, and strategies with a high degree of effectiveness
<b>Communication</b> – The conveying of meaning through various forms				
	The student:			
<b>Expression and organization of ideas and information</b> (e.g., clear expression, logical organization) in oral, visual, and/or written forms (e.g., diagrams, models)	expresses and organizes ideas and information with limited effectiveness	expresses and organizes ideas and information with some effectiveness	expresses and organizes ideas and information with considerable effectiveness	expresses and organizes ideas and information with a high degree of effectiveness

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<b>Communication (continued)</b>				
	The student:			
<b>Communication for different audiences</b> (e.g., peers, adults) and <b>purposes</b> (e.g., to inform, to persuade) in oral, visual, and/or written forms	communicates for different audiences and purposes with limited effectiveness	communicates for different audiences and purposes with some effectiveness	communicates for different audiences and purposes with considerable effectiveness	communicates for different audiences and purposes with a high degree of effectiveness
<b>Use of conventions, vocabulary, and terminology of the discipline</b> in oral, visual, and/or written forms (e.g., symbols, formulae, scientific notation, SI units)	uses conventions, vocabulary, and terminology of the discipline with limited effectiveness	uses conventions, vocabulary, and terminology of the discipline with some effectiveness	uses conventions, vocabulary, and terminology of the discipline with considerable effectiveness	uses conventions, vocabulary, and terminology of the discipline with a high degree of effectiveness
<b>Application – The use of knowledge and skills to make connections within and between various contexts</b>				
	The student:			
<b>Application of knowledge and skills</b> (e.g., concepts and processes, safe use of equipment and technology, investigation skills) in familiar contexts	applies knowledge and skills in familiar contexts with limited effectiveness	applies knowledge and skills in familiar contexts with some effectiveness	applies knowledge and skills in familiar contexts with considerable effectiveness	applies knowledge and skills in familiar contexts with a high degree of effectiveness
<b>Transfer of knowledge and skills</b> (e.g., concepts and processes, safe use of equipment and technology, investigation skills) to unfamiliar contexts	transfers knowledge and skills to unfamiliar contexts with limited effectiveness	transfers knowledge and skills to unfamiliar contexts with some effectiveness	transfers knowledge and skills to unfamiliar contexts with considerable effectiveness	transfers knowledge and skills to unfamiliar contexts with a high degree of effectiveness
<b>Making connections between science, technology, society, and the environment</b> (e.g., assessing the impact of science and technology on people, other living things, and the environment)	makes connections between science, technology, society, and the environment with limited effectiveness	makes connections between science, technology, society, and the environment with some effectiveness	makes connections between science, technology, society, and the environment with considerable effectiveness	makes connections between science, technology, society, and the environment with a high degree of effectiveness
<b>Proposing courses of practical action to deal with problems relating to science, technology, society, and the environment</b>	proposes courses of practical action of limited effectiveness	proposes courses of practical action of some effectiveness	proposes courses of practical action of considerable effectiveness	proposes highly effective courses of practical action